CHRISTINE MEISNER ROSEN

the business-environment connection

I WOULD LIKE to take this opportunity to try to persuade the readers of *Environmental History* of the urgent importance of engaging in research that integrates business and environmental history. In my view it is essential that environmental historians join with business historians in investigating the historical interface between business and the environment. We need to do this not only because the subject is intrinsically interesting, but also because it promises to provide crucial insights into the origins of the mounting environmental and public-health crises that loom before us.

As Christopher Sellers and I pointed out several years ago in a similar call directed at business historians, despite decades of increasing alarm about industrial pollution, climate change, rainforest destruction, species extinction, and all the other forms of environmental degradation linked to economic activity, surprisingly little in-depth research has focused specifically on the relationship between the history of business and the evolution of the natural environment—either by environmental or business historians.[1] Business historians have been especially oblivious. Blinded by the internal, corporate organizational concerns of the Chandlerian perspective that dominated the field until very recently, the vast majority have simply ignored the environmental context in which the modern corporation has evolved. Environmental historians are doing better, especially since the early 1990s, due in large part to the heroic efforts of Bill Cronon and others to extend the boundaries of the field beyond its longstanding focus on wilderness, forests, and agriculture. While the new work coming out is extremely interesting and important, however, we have only begun to scratch the surface of this important subject. Much of the new work by environmental historians focuses on business's impact on the environment, especially its negative impacts, without looking at the impact the natural environment has had on the evolution of business. More detrimentally, with a few notable exceptions, it tends to treat business as a black box, as an inherently exploitative force, (or as my teenage son might put it, as "the black box of DOOM!!"), rather than as a living system whose internal dynamics and constraints need to be explored and analyzed if we are to truly understand how the two systems—nature and business—have interacted and coevolved over time.[2]

To integrate the history of business into our study of the natural world, we need to recognize that business and nature are inseparable parts of a single interactive system, an "industrial ecosystem," through which energy and

materials cycle continuously, from nature to industry and back to nature, in a never-ending feedback loop.[3] The business system feeds on the natural resources found in the earth and on energy ultimately derived from the sun, as well as on the manufactured inputs of industrial supply chains. It returns its wastes to the earth, the seas, and the atmosphere. These two-way flows take place whenever industry extracts materials and energy from the earth and processes them into manufactured goods, whenever it ships and sells the goods, and whenever consumers use and ultimately dispose of them. At every step of the cycle–not just the final, end-user disposal step–the flow-through includes a great deal of energy and material waste. Indeed, according to recent research, only a small fraction of the material that flows into the U.S. economy today gets bound up into manufactured products. As much as 96 percent is waste–mine waste, stuff that blows out the factory smokestack or effluent pipe as pollution or that is left behind on the factory floor and dumped in landfills. Most of the products are disposed of as waste as well, rather than recycled.[4] We know startlingly little about how these proportions compare to the materials and energy flows that shaped our industrial ecosystem in the past–or anything else about them for that matter.

What we need to do to fill the void in our knowledge is multifold. We need to research and explain the historical evolution of the mutual interdependencies between business and the biological ecosystems, landscapes, climates, and materials cycles (e.g. water, carbon, nitrogen) of our planet. Equally important, if we are ever to fully understand the industrial ecosystem system as a whole, we must peel back the layers of the black box at its center. We must investigate, in depth, the business institutions, organizational structures, market forces, public policies, personality factors, cultural forces, and all the other internal and external dynamics and constraints that shaped the flows of capital, the management decision making, and the activities of the workers and the legions of consumers that have determined how the business system has interacted with the natural world over time. It is imperative that we investigate all aspects of this interaction, rather than limit ourselves to the study of the environmental depredations of industry. We need to conduct this research with an open mind, attuned to the ways in which the managers of business differed in their interactions with the environment, both within and across industries and over time, struggling to reduce waste, solve pollution problems, and deal positively with other forms of degradation, as well as exploiting the opportunities for profit and ignoring, failing to properly understand, or covering up the problems. You may wonder, isn't this a job for business historians? Of course it is. But it is also the stuff of environmental history. As Donald Worster once pointed out, "Wherever the two spheres, the natural and the cultural, interact with one another, environmental history finds its essential themes."[5] Business is nothing if not an institution of human culture, at the nexus between the economy and the natural world.

This work will take us in directions that may be new to many environmental historians: into research in corporate archives, published and unpublished legal and economic records, the trade-waste literature of industrial and sanitary engineers, the records of the public-health profession, as well as the host of other materials that provide insight into business, public policy, and consumer culture.

It is my hope that it will enable us to generate historical understandings and insights that will help business managers, government policy makers, and the public develop better strategies for dealing with the many environmental and public-health challenges our industrial society faces as a result of our problematic relationship with the natural world.

Christine Meisner Rosen *is working on a book tentatively titled* To Quell the Raging Wastes: A History of the American Response to Industrial Pollution, 1840-1930. *An associate professor at the Haas School of Business at the University of California-Berkeley, she teaches and does research on the borderland between environmental protection and business management in the past and the present.*

NOTES

1. Christine Meisner Rosen and Christopher Sellers, "The Nature of the Firm: Towards an Eco-cultural History of Business," *Business History Review* (Winter 1999): 577-600. See also Jeffrey Stine and Joel Tarr, "At the Intersection of Histories: Technology and the Environment," *Technology and Culture* 39 (1998): 601-40.
2. The most well-known exception is William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton & Company, 1991). Others include David Stradling and Joel A. Tarr, "Environmental Activism, Locomotive Smoke, and the Corporate Response: The Case of the Pennsylvania Railroad and Chicago's Smoke Control," *Business History Review* (Winter 1999): 677-704; Hugh S. Gorman, *Redefining Efficiency: Pollution Concerns, Regulatory Mechanisms, and Technological Change in the U.S. Petroleum Industry* (Akron, Ohio: University of Akron Press, 2001); Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution* (Berkeley and Los Angeles: University of California Press and The Millbank Memorial Fund 2002); Craig E. Colton and Peter N. Skinner, *The Road to Love Canal: Managing Waste before Love Canal* (Austin: University of Texas Press, 1996); John K. Smith, "Turning Silk Purses into Sows' Ears: Environmental History and the Chemical Industry," *Enterprise and Society* 1 (December 2000): 785-12; Terrence Kehoe and Charles Jacobson, "Environmental Decision Making and DDT Production at Montrose Chemical Corporation of California" *Enterprise and Society* 4 (December 2003): 640-75; and Carl Zimring, "Dirty Work: How Hygiene and Xenophobia Marginalized the American Waste Trades, 1870-1930," *Environmental History* 9 (January 2004): 80-101.
3. The industrial ecosystem concept comes from the field of industrial ecology. For more information, see Christine Meisner Rosen, "Industrial Ecology and the Greening of Business History," *Business and Economic History* 26 (Fall 1997): 123-37; and Christine Meisner Rosen, "Industrial Ecology and the Transformation of Corporate Environmental Management: A Business Historian's Perspective," in *Inventing for the Environment,* ed. Arthur Molella and Joyce Bed (Cambridge: MIT Press in association with the Smithsonian Institution, Washington, D.C., 2003), 318-38.
4. Robert U. Ayres and Allen V. Kneese, "Externalities, Economics, and Thermodynamics," in *Economy and Ecology: Towards Sustainable Development,* ed. F. Archibugi and P. Nijkamp (Dordrecht, The Netherlands: Kluwer Academic Publishers, 1989), 109-17; Gil Friend, "Sustainability Indicators: The Simple, Sobering and Significant," *Greenbiz,* June 2004, http://www.greenbiz.com./news/columns_third.cfm?NewsID=26733&CFID=15508772&CFTOKEN=15066082>. See also Paul Hawken, Amory Lovins, and L. Hunter Lovins, *Natural Capitalism: Creating the Next Industrial Revolution* (Boston: Little, Brown and Company, 1999).
5. Donald Worster, "Toward an Agroecological Perspective in History," *Journal of American History* 76 (March 1990): 1090.